

## Supplementary Information File 3. CASE STUDY 3.

### WHO Guideline Emergency Risk Communication in humanitarian crises and disasters (2018)

**Web reference:** <http://www.who.int/risk-communication/guidance/process/systematic-reviews/en/>

**Source reviews:** 13 commissioned mixed-method reviews. Only a couple of trials identified.

**Review methods:** Multiple sequential within method streams using method-specific Cochrane intervention review methods and Framework synthesis followed by a cross-method Framework synthesis. GRADE and GRADE CERQual used (with adapted versions).

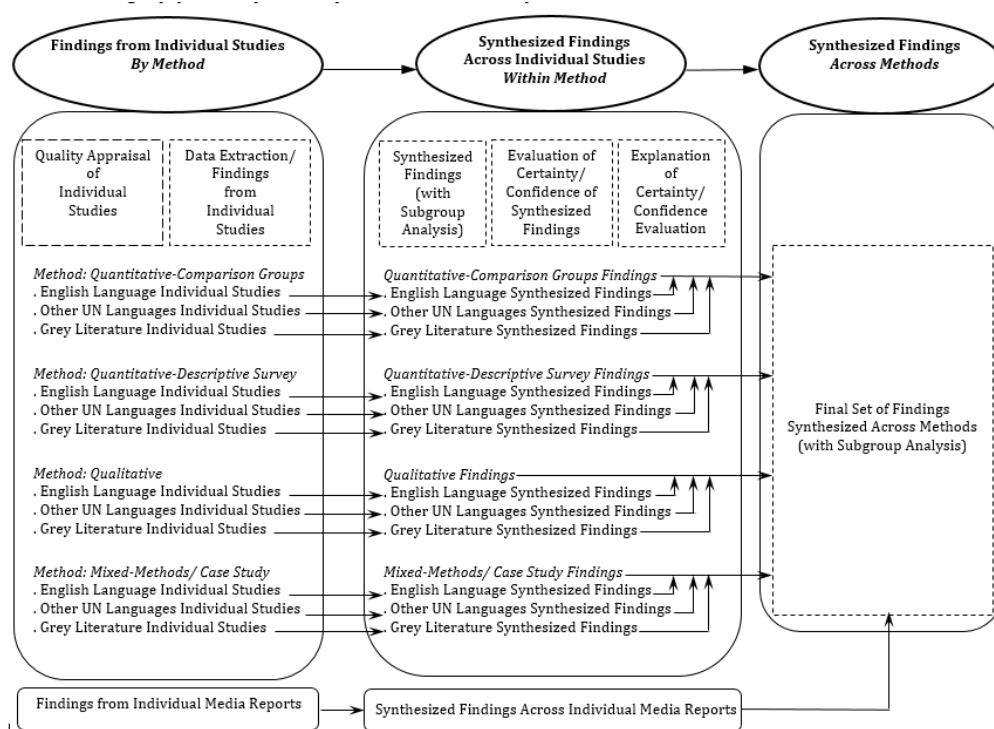
**Types of studies:** Qualitative, quantitative and mixed-method.

**Types of Synthesis:** Statistical (descriptive) and qualitative: Cochrane intervention review methods. Qualitative Framework synthesis.

**Mode of analysis:** Neither theory testing or theory building.

**Example Mixed-method review question:** What are the best ways to engage communities in emergency risk communication activities to respond to events/contexts?

**Review Design:** A results-based convergent synthesis. First a knowledge map of studies was produced to identify the method, topic and geographical spread of evidence. The subsequent reviews first organised and synthesised evidence by method-specific streams and reported method-specific findings. Then similar findings across method-specific streams were grouped and further developed using all the relevant evidence. Findings were then brought together in DECIDE frameworks. Integration of the evidence in this way best aligns with mixed-method synthesis.



**Assessment of methodological limitations:** Quantitative-Comparison Group studies were assessed with the Cochrane Effective Practice and Organisation of Care Risk of Bias tool adaptations.

Quantitative-Descriptive Surveys were assessed with an adaptation of Davids & Roman (2014) tool.

Qualitative reviews used CASP (CASP 2013) and Mixed-method and case studies were assessed using the McGill University Mixed-Method Appraisal Tool (Pluye 2011).

**Data extraction methods:** 4 teams undertook 13 mixed-method reviews and the respective teams developed cross method data extraction forms based on an a priori framework which integrated data extraction.

**Points of data integration:** All 13 reviews used the same design and methods. Integration at all points of the review from question formulation to the evidence to recommendation stage (including searching, data extraction, a priori framework, disaster response pathway etc). Four teams communicated and shared information. Used GRADE and GRADE CERQual (with adapted versions). Integrated findings across and within methods. Considerable difficulty in fitting evidence into DECIDE Framework, which needed further adaptation.

### Citations to the reviews contributing to the guidance:

1. Deborah Toppenberg-Pejcic, Jane Noyes, Tomas Allen, Nyka Alexander, Marsha Vanderford, and Gaya Gamhewage. Translation assistance: Gregory Haertl and Luis Felipe Cunha Sardenberg Bastos.  
Rapid Grey Literature Evidence Review to Support the Guideline on Emergency Risk Communication.
2. Savoia E, Lin L, Short S, Jha A, Argentini, Klein N, Noyes J, Allen T, Alexander N, Vanderford M, and Gamhewage G. Evidence Syntheses to Support the WHO Guidelines on Emergency Risk Communication. Harvard T.H. Chan School of Public Health, USA. Four Reviews: How can emergency risk communication best be integrated into national and international public health emergency preparedness planning and response activities? What are the best mechanism(s) to establish effective intra-agency, inter-agency, and/or cross-jurisdictional (such as cross-border; national with subnational jurisdictions, etc.) information sharing for emergency risk communication? What are the best practices and protocols to ensure coordination of risk communication activities between responding agencies across organizations and levels of response? What are the best practices and most appropriate tools for gathering, analyzing, and interpreting emergency risk communication data and feedback and integrating results into emergency risk communication planning, strategy development, execution and evaluation?
3. Sellnow, T., Miller, A. N., Neuberger, L., Todd, A., Freihaut, R., Noyes J., Allen T., Alexander N., Vanderford M., and Gamhewage G. Noyes J, Allen T, Alexander N, Vanderford M, and Gamhewage G. (2016) How Best to Develop and Sustain Emergency Risk Communication Staff Capacity for Preparedness and Response. University of Central Florida Nicholson School of Communication, US.
4. Deborah Toppenberg-Pejcic. How to ensure sufficient and sustainable financing for emergency risk communication? Pradeep Sopory, Ashleigh Day, Julie Novak, Kristin Eckert, Lillian Wilkins, Donyale Padgett, Jane Noyes, Tomas Allen, Nyka Alexander, Marsha Vanderford, and Gaya Gamhewage.  
What are the best and most generalizable emergency risk communication activities that build trust in health authorities as a source of health protection information among affected communities and other stakeholders?
5. Donyale Padgett, Pradeep Sopory, Jacob Nickell, Ashleigh Day, Lillian (Lee) Wilkins, Kristin (Stine) Eckert, Julie Novak, Jane Noyes, Tomas Allen, Nyka Alexander, Marsha Vanderford, and Gaya Gamhewage.  
What are the elements and steps of effective, strategic communication planning?
6. Julie Novak and Ashleigh Day, along with Pradeep Sopory, Lillian (Lee) Wilkins, Donyale Padgett, Kristin (Stine) Eckert, Jane Noyes, Tomas Allen, Nyka Alexander, Marsha Vanderford, and Gaya Gamhewage. What are the best ways to engage communities in emergency risk communication activities to respond to events/ contexts?
7. Kristin (Stine) Eckert, along with Pradeep Sopory, Ashleigh Day, Lillian (Lee) Wilkins, Donyale Padgett, Julie Novak, Jane Noyes, Tomas Allen, Nyka Alexander, Marsha Vanderford, and Gaya Gamhewage. What are the best social media channels and practices to promote health protection measures and dispel rumours and misinformation during events.
8. Pradeep Sopory, Ashleigh Day, Julie Novak, Kristin (Stine) Eckert, Lillian (Lee) Wilkins, Donyale Padgett, Jane Noyes, Tomas Allen, Nyka Alexander, Marsha Vanderford, and Gaya Gamhewage. What are the best ways to communicate uncertainties to public audiences, at-risk communities, and stakeholders?
9. Lillian (Lee) Wilkins, along with Pradeep Sopory, Ashleigh Day, Stine Eckert, Donyale Padgett, Julie Novak, Jane Noyes, Tomas Allen, Nyka Alexander, Marsha Vanderford, and Gaya Gamhewage. What elements and timing of messages are best at influencing public/ community levels of concern to motivate relevant actions to protect health?

## References:

Critical Appraisal Skills Programme (CASP). (2013). *CASP qualitative checklist*. Retrieved from <http://www.casp-uk.net/casp-tools-checklists>.

Davids, E. L., & Roman, N. V. (2014). A systematic review of the relationship between parenting styles and children's physical activity. *African Journal for Physical, Health Education, Recreation and Dance*, 2(1), 228-246.

Pluye, P., Robert, E., Cargo, M., Bartlett, G., O'Cathain, A., Griffiths, F., Boardman, F., Gagnon, M.P., & Rousseau, M.C. (2011). Proposal: A mixed methods appraisal tool for systematic mixed studies reviews. Retrieved from <http://mixedmethodsappraisaltoolpublic.pbworks.com>. Archived by WebCite® at <http://www.webcitation.org/5tTRTc9yJ>